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The Molluscs from the 1969 Lake Winnipeg Baseline Survey

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by

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ABSTRACT

Flannagan, J.F., and D.G. Cobb. 1991. The molluscs from the 1969 Lake Winnipeg baseline survey. Can. Manuscr. Rep. Fish. Aquat. Sci. 2127: iv + 35 p.

The benthos of Lake Winnipeg, Manitoba was sampled at 58 stations from June to October in 1969 as part of a limnological baseline survey. Triplicate Ekman or Ponar grabs at each station resulted in the collection of 12 genera and 29 species of molluscs throughout the lake.

This report presents the seasonal abundance and spatial distribution of mollusc species, and the overall average abundance for each species within each of the three basins of the lake.

Within the Class Pelecypoda, the most abundant species were Pisidium casertanum and P. lilljeborgi, while within the Class Gastropoda, Probythinella lacustris was the most abundant species. The abundance of molluscs in the Narrows region of the lake was less than one-half that of the North and South Basins.

Key words: benthos; Mollusca; Lake Winnipeg; Ekman; ponar; seasonal; distribution; abundance.

RÉSUMÉ

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De juin à octobre 1969, on a échantillonné le benthos du lac Winnipeg, Manitoba, à partir de 58 stations d'échantillonnage dans le cadre d'une étude limnologique visant à rassembler des données de base. Le prélèvement de trois échantillons par station au moyen de bennes de type Ekman ou Ponar a permis de recueillir dans l'ensemble du lac des mollusques appartenant à 12 genres et 29 espèces.

Dans le présent rapport, on décrit l'abondance et la distribution spatiale saisonnières des espèces de mollusques ainsi que l'abondance totale moyenne de chacune des espèces dans chacun des trois bassins du lac.

Dans la Classe Pelecypoda, les espèces les plus abondantes étaient Pisidium casertanum et P. lilljeborgi, alors que dans la Classe Gastropoda, l'espèce la plus abondante était Probythinella lacustris. L'abondance des mollusques dans la région du lac nommée The Narrows était inférieure à la moitié de l'abondance dans les bassins nord et sud.

Mots-clés: benthos; Mollusca; lac Winnipeg; Ekman; Ponar; saisonnier; distribution; abondance.

INTRODUCTION

This report presents the seasonal distribution and abundance of Mollusca from a baseline survey of Lake Winnipeg, Manitoba conducted by staff from the Freshwater Institute (FWI) during 1969. The study was a joint investigation of the chemical limnology, phytoplankton, primary production, zooplankton and zoobenthos of the lake. Data on the molluscs is being made available for comparison in future studies on the lake, and is one of a series of reports on the benthos of Lake Winnipeg resulting from the 1969 survey (Flannagan 1979; Flannagan and Cobb 1981; Flannagan and Cobb 1984).

The status of the biota and water quality of Lake Winnipeg has been the subject of increasing public concern. The potential for the introduction of exotic biota from the Great Lakes (e.g. rainbow smelt and zebra mussel), and their effects on the lake ecosystem, together with the declining commercial fishery of the lake has necessitated a better understanding of the ecology of the lake.

Prior to this survey, little was known of the molluscs of the lake. Bajkov (1930) provided densities of several taxa, and Green (1971) included data for several mollusc species collected from one of the FWI 1969 cruises as part of a multivariate analysis of mollusc habitat niches in central Canada. Lake Winnipeg surveys by the Manitoba Government during the 1960's surveys did not include data on mollusc species.

MATERIALS AND METHODS

DESCRIPTION OF THE STUDY AREA

Lake Winnipeg (52°N, 97°W) (Fig. 1), a remnant of glacial Lake Agassiz, is described by Brynskill (1973) to have a surface area of 23,750 km^2, a mean depth ($\bar{Z}$) of 12.0 m, and a maximum depth of 36 m. Its long fetch, relatively shallow depth, and geology results in a high degree of mixing, an isothermal water column, and high turbidity (Secchi = 0.1-1.0 m south basin, 1.0-3.0 m north basin).

Three basins are delineated by the shape of the lake (Fig. 1). The South Basin is shallower ($\bar{Z}$ = 9.7 m) than the larger North Basin ($\bar{Z}$ = 13.3 m). The two basins are separated by a Narrows section ($\bar{Z}$ = 7.2 m), which is subjected to strong currents associated with seiches.

The north, west, south and southeast shores and watersheds of Lake Winnipeg are in sedimentary (Palaeozoic and Mesozoic) basins, while the eastern shore and its watersheds are on the Precambrian Shield, and are influenced by inflowing water of different chemistry than the rest of the lake. More detailed descriptions of the lake and its watershed are found in Brunskill et al. (1980), Slack (1967) included Lake Winnipeg in a study of the benthic fauna of lakes along the edge of the Precambrian Shield.

BENTHOS SAMPLING

Lake Winnipeg was sampled monthly at up to 58 offshore stations during the open-water season of 1969 (see Fig. 1). Each sampling period, referred to as a cruise, had a duration ranging from five to nine days. At each station, three 15 x 15 cm Birge-Ekman grabs were taken except when the substrate was too hard for the sampler to penetrate. Then samples were taken with a Ponar grab (sampling area 528 cm^2). Samples were sieved through a 200 μm mesh (400 μm for coarse substrate), preserved in 4% formalin, and sorted in the laboratory using a dissecting microscope. Specimens of molluscs for each sample cruise were labelled by cruise number, station location, and sampling device, and stored at the Freshwater Institute, Winnipeg.

DATA PRESENTATION

Sample cruise dates and number of benthos stations visited for that cruise are presented along with Fig. 1. Table 1 presents a species list of molluscs collected during the 1969 survey and the overall mean number within each basin of the lake. Tables 2-32 present the abundance of each species of mollusc as the mean of the three grabs converted to number/m^2 (rounded to nearest whole number) for each cruise. Mean densities for each species (all cruises) were also calculated for each station. Stations not sampled during a cruise are indicated.

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Cruise number	Dates of cruise	Number stations sampled
300	4 June - 12 June	26
400	9 July - 17 July	44
500	24 July - 1 August	51
600	2 Sept. - 10 Sept.	44
700	3 Oct. - 12 Oct.	39
800	27 Oct. - 31 Oct.	26

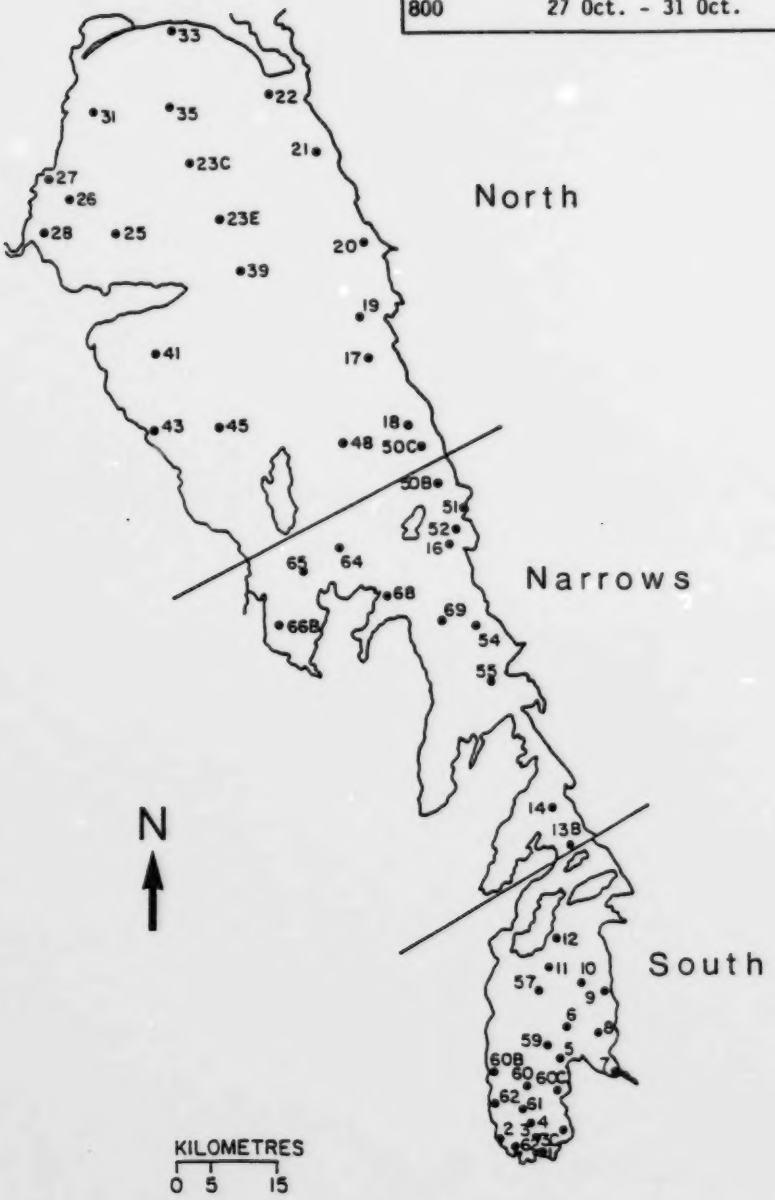

Fig. 1. Map of Lake Winnipeg showing the three regions of the Lake (North, South Basins and Narrows), location of benthos sampling stations, cruise sample dates and number of stations visited during each cruise.

Table 1. List of mollusc species collected in 1969 Lake Winnipeg baseline survey, and their overall mean abundance (no./m^2) within each basin of the lake.

Taxa	South	Narrows	North
Phylum Mollusca			
Class Pelecypoda			
Family UNIONIDAE			
Anodonta grandis grandis Say	0.2	0	0
Ligumia recta (Lamarck)	0	0	0.1
Lampsilis radiata siliquoidea (Barnes)	0.1	0.6	0.1
Family PISIDIIDAE			
Subfamily Sphaeriinae			
Sphaerium lacustre (Muller)	1	0	0.1
S. nitidum Clessin	3	1	4
S. partumeium (Say)	1	0	0
S. striatinum (Lamarck)	16	5	12
S. transversum (Say)	15	0	1
Unidentified juveniles	1	2	1
Subfamily Pisidinae			
Pisidium casertanum (Poli)	84	36	154
P. compressum Prime	24	7	9
P. conventus Clessin	4	0.2	4
P. ferrugineum Prime	0.3	0.7	2
P. idahoense Roper	3	5	24
P. lilljeborgi Clessin	86	40	145
P. milium Held	0.1	0	1
P. nitidum Jenyns	20	4	20
P. obtusale Pfeiffer	0	0.2	19
P. punctiferum Guppy	3	0.2	3
P. subtruncatum Malm	3	0.4	7
P. variable Prime	2	9	12
P. walkeri Sterki	3	0	1
Unidentified juveniles	17	74	41
Class Gastropoda			
Subclass Prosobranchia			
Family VALVATIDAE			
Valvata sincera sincera Say	0.6	0.8	42
V. tricarinata (Say)	17	19	36
Cincinnatia cincinnatiensis (Anthony)	32	4	0.9
Probythinella lacustris (Baker)	176	30	43
Amnicola limosa (Say)	35	18	28
Subclass Pulmonata			
Family LYMNAEIDAE			
Lymnaea spp.	0.1	0	0.2
Family PHYSIDAE			
Physa jennessi skinneri Taylor	4	0.2	0.7
Family PLANORBIDAE			
Planorbula sp.	2	0	0
Total Mollusca	554	257	611

Table 2. Density (no./m^2; mean of 3 grabs) of Anodonta grandis grandis collected during 1969 Lake Winnipeg baseline survey. (- = not sampled).

Station	Cruise Number 300	400	500	600	700	800	All Cruises
1	-	-	-	0	-	-	0
2	-	0	0	0	0	0	0
3	0	0	0	0	0	-	0
3C	-	-	0	0	0	-	0
4	0	0	0	0	0	0	0
5	-	0	0	0	0	-	0
6	-	-	0	0	15	0	4
7	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0
9	0	0	0	-	-	-	0
10	0	0	0	0	0	0	0
11	-	-	-	0	-	0	0
12	-	-	0	0	0	0	0
13B	-	0	-	-	-	-	0
14	0	0	0	0	0	0	0
16	-	0	0	0	0	0	0
17	-	0	0	-	0	-	0
18	0	0	0	0	0	-	0
19	-	0	0	-	-	-	0
20	-	-	0	0	-	0	0
21	-	-	0	0	0	0	0
22	-	0	0	0	-	-	0
23C	-	0	0	0	0	0	0
23E	0	0	0	0	0	-	0
24	0	-	-	-	-	-	0
25	0	0	0	0	0	0	0
26	0	0	0	0	0	-	0
27	0	0	0	-	0	-	0
28	-	0	0	0	-	0	0
31	-	0	0	0	0	-	0
33	-	0	0	-	-	-	0
35	-	0	0	0	0	-	0
39	0	0	0	0	0	0	0
41	0	0	0	0	0	-	0
43	0	0	0	-	-	-	0
45	0	0	0	0	-	-	0
48	0	0	0	0	0	0	0
50B	-	0	0	-	-	-	0
50C	-	0	0	0	0	-	0
51	0	0	0	0	0	-	0
52	0	0	0	0	0	-	0
54	0	-	0	0	0	0	0
55B	-	-	-	0	-	0	0
57	0	0	0	0	0	-	0
58	-	0	-	-	-	-	0
59	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0
60B	-	0	0	0	0	-	0
60C	-	-	0	0	0	-	0
61	0	0	0	0	0	0	0
62	-	-	0	0	0	0	0
63	0	0	0	0	0	-	0
64	-	0	0	0	0	0	0
65	-	0	0	-	-	-	0
66B	-	-	0	-	-	-	0
68	-	0	0	-	0	0	0
69	-	0	0	0	-	-	0
69B	-	-	-	-	-	0	0
CRUISE MEAN	0	0	0	0	0.4	0	0.07

Table 3. Density (no./m^2; mean of 3 grabs) of Ligumia recta collected during 1969 Lake Winnipeg baseline survey. (- = not sampled).

Station	Cruise Number 300	400	500	600	700	800	All Cruises
1	-	-	-	0	-	-	0
2	-	0	0	0	0	0	0
3	0	0	0	0	0	-	0
3C	-	-	0	0	0	-	0
4	0	0	0	0	0	0	0
5	-	0	0	0	0	-	0
6	-	-	0	0	0	0	0
7	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0
9	0	0	0	-	-	-	0
10	0	0	0	0	0	0	0
11	-	-	-	0	-	0	0
12	-	-	0	0	0	0	0
13B	-	0	-	-	-	-	0
14	0	0	0	0	0	0	0
16	-	0	0	0	0	0	0
17	-	0	0	-	0	-	0
18	0	0	0	0	0	-	0
19	-	0	0	-	-	-	0
20	-	-	0	0	-	0	0
21	-	-	0	0	0	0	0
22	-	0	0	0	-	-	0
23C	-	0	0	0	0	0	0
23E	0	0	0	0	0	-	0
24	0	-	-	-	-	-	0
25	0	0	0	0	0	0	0
26	0	0	0	0	0	-	0
27	0	0	0	-	0	-	0
28	-	0	6	0	-	0	2
31	-	0	0	0	0	-	0
33	-	0	0	-	-	-	0
35	-	0	0	0	0	-	0
39	0	0	0	0	0	0	0
41	0	0	0	0	0	-	0
43	0	0	0	-	-	-	0
45	0	0	0	0	-	-	0
48	0	0	0	0	0	0	0
50B	-	0	0	-	-	-	0
50C	-	0	0	0	0	-	0
51	0	0	0	0	0	-	0
52	0	0	0	0	0	-	0
54	0	-	0	0	0	0	0
55B	-	-	-	0	-	0	0
57	0	0	0	0	0	-	0
58	-	0	-	-	-	-	0
59	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0
60B	-	0	0	0	0	-	0
60C	-	-	0	0	0	-	0
61	0	0	0	0	0	0	0
62	-	-	0	0	0	0	0
63	0	0	0	0	0	-	0
64	-	0	0	0	0	0	0
65	-	0	0	-	-	-	0
66B	-	-	0	-	-	-	0
68	-	0	0	-	0	0	0
69	-	0	0	0	-	-	0
69B	-	-	-	-	-	0	0
CRUISE MEAN	0	0	0.10	0	0	0	0.03

Table 4. Density (no./m^2; mean of 3 grabs) of Lampsilis radiata siliquoidea collected during 1969 Lake Winnipeg baseline survey. (- = not sampled).

Station	Cruise Number 300	400	500	600	700	800	All Cruises
1	-	-	-	0	-	-	0
2	-	0	0	0	0	0	0
3	0	0	0	0	0	-	0
3C	-	-	0	0	0	-	0
4	0	0	0	0	0	0	0
5	-	0	0	0	0	-	0
6	-	-	0	0	0	0	0
7	0	0	0	0	15	0	3
8	0	0	0	0	0	0	0
9	0	0	0	-	-	-	0
10	0	0	0	0	0	0	0
11	-	-	-	0	-	0	0
12	-	-	0	0	0	0	0
13B	-	0	-	-	-	-	0
14	0	0	0	0	0	0	0
16	-	0	0	0	0	0	0
17	-	0	0	-	0	-	0
18	0	0	0	0	0	-	0
19	-	0	0	-	-	-	0
20	-	-	0	0	-	0	0
21	-	-	0	0	0	0	0
22	-	0	0	0	-	-	0
23C	-	0	0	0	0	0	0
23E	0	0	0	0	0	-	0
24	0	-	-	-	-	-	0
25	0	0	0	0	0	0	0
26	0	0	0	0	0	-	0
27	0	0	0	-	0	-	0
28	-	0	6	0	-	0	2
31	-	0	0	0	0	-	0
33	-	0	0	-	-	-	0
35	-	0	0	0	0	-	0
39	0	0	0	0	0	0	0
41	0	0	0	0	0	-	0
43	0	0	0	-	-	-	0
45	0	0	0	0	-	-	0
48	0	0	0	0	0	0	0
50B	-	0	0	-	-	-	0
50C	-	0	0	0	0	-	0
51	0	0	0	15	30	-	9
52	0	0	0	0	0	-	0
54	0	-	0	0	0	0	0
55B	-	-	-	0	-	0	0
57	0	0	0	0	0	-	0
58	-	0	-	-	-	-	0
59	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0
60B	-	0	0	0	0	-	0
60C	-	-	0	0	0	-	0
61	0	0	0	0	0	0	0
62	-	-	0	0	0	0	0
63	0	0	0	0	0	-	0
64	-	0	0	0	0	0	0
65	-	0	0	-	-	-	0
66B	-	-	0	-	-	-	0
68	-	0	0	-	0	0	0
69	-	0	0	0	-	-	0
69B	-	-	-	-	-	0	0
CRUISE MEAN	0	0	0.1	0.33	1.2	0	0.25

Table 5. Density (no./m^2; mean of 3 grabs) of Sphaerium lacustre collected during 1969 Lake Winnipeg baseline survey. (- = not sampled).

Station	Cruise Number 300	400	500	600	700	800	All Cruises
1	-	-	-	0	-	-	0
2	-	0	0	0	0	0	0
3	0	0	0	0	0	-	0
3C	-	-	15	0	0	-	5
4	0	0	0	15	0	0	3
5	-	15	0	0	0	-	4
6	-	-	0	0	0	0	0
7	0	0	0	0	0	0	0
8	15	0	0	0	0	0	3
9	0	0	0	-	-	-	0
10	30	0	0	0	0	0	5
11	-	-	-	0	-	0	0
12	-	-	0	0	0	0	0
13B	-	0	-	-	-	-	0
14	0	0	0	0	0	0	0
16	-	0	0	0	0	0	0
17	-	0	0	-	0	-	0
18	0	0	0	0	0	-	0
19	-	0	0	-	-	-	0
20	-	-	0	0	-	0	0
21	-	-	0	0	0	0	0
22	-	0	0	0	-	-	0
23C	-	0	0	0	0	0	0
23E	0	0	0	0	0	-	0
24	0	-	-	-	-	-	0
25	0	0	0	0	15	0	3
26	0	0	0	0	0	-	0
27	0	0	0	-	0	-	0
28	-	0	0	0	-	0	0
31	-	0	0	0	0	-	0
33	-	0	0	-	-	-	0
35	-	0	0	0	0	-	0
39	0	0	0	0	0	0	0
41	0	0	0	0	0	-	0
43	0	0	0	-	-	-	0
45	0	0	0	0	-	-	0
48	0	0	0	0	0	0	0
50B	-	0	0	-	-	-	0
50C	-	0	0	0	0	-	0
51	0	0	0	0	0	-	0
52	0	0	0	0	0	-	0
54	0	-	0	0	0	0	0
55B	-	-	-	0	-	0	0
57	0	0	0	0	0	-	0
58	-	0	-	-	-	-	0
59	0	0	0	0	0	0	0
60	0	0	0	15	0	0	3
60B	-	0	0	0	0	-	0
60C	-	-	0	0	0	-	0
61	0	0	0	0	0	0	0
62	-	-	0	0	0	0	0
63	0	0	0	0	0	-	0
64	-	0	0	0	0	0	0
65	-	0	0	-	-	-	0
66B	-	-	0	-	-	-	0
68	-	0	0	-	0	0	0
69	-	0	0	0	-	-	0
69B	-	-	-	-	-	0	0
CRUISE MEAN	1.7	0.3	0.3	0.7	0.4	0	0.4

Table 6. Density (no./m^2; mean of 3 grabs) of Sphaerium nitidum collected during 1969 Lake Winnipeg baseline survey. (- = not sampled).

Station	Cruise Number 300	400	500	600	700	800	All Cruises
1	-	-	-	0	-	-	0
2	-	0	0	0	0	0	0
3	0	0	0	0	11	-	2
3C	-	-	0	0	0	-	0
4	0	0	0	15	0	0	3
5	-	15	0	0	0	-	4
6	-	-	0	0	0	0	0
7	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0
9	0	0	0	-	-	-	0
10	0	30	0	0	0	0	5
11	-	-	-	0	-	0	0
12	-	-	0	15	0	0	4
13B	-	0	-	-	-	-	0
14	0	0	0	0	0	0	0
16	-	0	0	0	0	0	0
17	-	0	0	-	0	-	0
18	0	0	0	0	0	-	0
19	-	0	0	-	-	-	0
20	-	-	0	0	-	0	0
21	-	-	15	0	0	0	4
22	-	0	0	0	-	-	0
23C	-	0	30	0	0	0	6
23E	0	0	0	0	0	-	0
24	0	-	-	-	-	-	0
25	0	15	0	7	0	0	4
26	0	33	15	74	0	-	24
27	44	44	0	-	0	-	22
28	-	5	0	0	-	0	2
31	-	0	0	15	0	-	4
33	-	0	0	-	-	-	0
35	-	0	0	0	0	-	0
39	0	0	0	0	0	0	0
41	0	30	22	0	0	-	10
43	0	0	0	-	-	-	0
45	0	0	0	0	-	-	0
48	0	0	0	0	0	0	0
50B	-	0	0	-	-	-	0
50C	-	0	0	0	0	-	0
51	0	0	0	0	0	-	0
52	0	0	0	0	0	-	0
54	0	-	0	0	0	0	0
55B	-	-	-	0	-	0	0
57	0	0	0	0	0	-	0
58	-	0	-	-	-	-	0
59	0	74	0	0	0	0	12
60	0	0	0	0	0	0	0
60B	-	0	0	0	0	-	0
60C	-	-	15	0	0	-	5
61	0	0	0	0	0	0	0
62	-	-	0	0	0	0	0
63	0	0	15	0	89	-	21
64	-	15	0	0	0	0	3
65	-	0	0	-	-	-	0
66B	-	-	15	-	-	-	15
68	-	0	0	-	0	0	0
69	-	0	0	0	-	-	0
69B	-	-	-	-	-	0	0
CRUISE MEAN	1.7	5.9	2.5	2.9	2.6	0	2.6

Table 7. Density (no./m^2; mean of 3 grabs) of Sphaerium partumeium collected during 1969 Lake Winnipeg baseline survey. (- = not sampled).

Station	Cruise Number 300	400	500	600	700	800	All Cruises
1	-	-	-	0	-	-	0
2	-	0	0	0	0	0	0
3	0	0	0	0	0	-	0
3C	-	-	15	15	0	-	10
4	0	0	0	0	0	0	0
5	-	0	0	0	0	-	0
6	-	-	0	0	0	0	0
7	0	0	0	0	0	0	0
8	0	0	15	0	0	0	3
9	0	0	0	-	-	-	0
10	0	0	0	0	0	0	0
11	-	-	-	0	-	0	0
12	-	-	0	0	0	0	0
13B	-	0	-	-	-	-	0
14	0	0	0	0	0	0	0
16	-	0	0	0	0	0	0
17	-	0	0	-	0	-	0
18	0	0	0	0	0	-	0
19	-	0	0	-	-	-	0
20	-	-	0	0	-	0	0
21	-	-	0	0	0	0	0
22	-	0	0	0	-	-	0
23C	-	0	0	0	0	0	0
23E	0	0	0	0	0	-	0
24	0	-	-	-	-	-	0
25	0	0	0	0	0	0	0
26	0	0	0	0	0	-	0
27	0	0	0	-	0	-	0
28	-	0	0	0	-	0	0
31	-	0	0	0	0	-	0
33	-	0	0	-	-	-	0
35	-	0	0	0	0	-	0
39	0	0	0	0	0	0	0
41	0	0	0	0	0	-	0
43	0	0	0	-	-	-	0
45	0	0	0	0	-	-	0
48	0	0	0	0	0	0	0
50B	-	0	0	-	-	-	0
50C	-	0	0	0	0	-	0
51	0	0	0	0	0	-	0
52	0	0	0	0	0	-	0
54	0	-	0	0	0	0	0
55B	-	-	-	0	-	0	0
57	0	0	0	0	0	-	0
58	-	0	-	-	-	-	0
59	0	0	0	15	0	0	3
60	0	0	0	0	0	0	0
60B	-	0	0	0	0	-	0
60C	-	-	0	0	0	-	0
61	0	0	0	0	0	0	0
62	-	-	0	0	0	0	0
63	0	22	0	0	0	-	4
64	-	0	0	0	0	0	0
65	-	0	0	-	-	-	0
66B	-	-	0	-	-	-	0
68	-	0	0	-	0	0	0
69	-	0	0	0	-	-	0
69B	-	-	-	-	-	0	0
CRUISE MEAN	0	0.5	0.6	0.7	0	0	0.3

Table 8. Density (no./m^2; mean of 3 grabs) of Sphaerium striatinum collected during 1969 Lake Winnipeg baseline survey. (- = not sampled).

Station	Cruise Number 300	400	500	600	700	800	All Cruises
1	-	-	-	0	-	-	0
2	-	0	0	30	0	15	9
3	0	0	0	0	0	-	0
3C	-	-	0	0	0	-	0
4	0	15	0	15	0	0	5
5	-	15	44	30	15	-	26
6	-	-	15	133	104	74	82
7	0	0	0	0	0	0	0
8	15	0	0	15	0	0	5
9	0	0	0	-	-	-	0
10	15	30	15	30	59	104	42
11	-	-	-	0	-	104	52
12	-	-	30	30	74	48	45
13B	-	0	-	-	-	-	0
14	0	0	0	0	0	0	0
16	-	0	0	0	0	0	0
17	-	0	0	-	0	-	0
18	0	0	0	0	0	-	0
19	-	0	0	-	-	-	0
20	-	-	0	0	-	0	0
21	-	-	0	0	0	0	0
22	-	0	0	0	-	-	0
23C	-	0	0	0	0	0	0
23E	0	0	0	0	0	-	0
24	0	-	-	-	-	-	0
25	0	0	0	0	0	0	0
26	0	0	0	0	0	-	0
27	119	186	163	-	133	-	150
28	-	27	6	0	-	0	9
31	-	34	15	193	78	-	80
33	-	0	0	-	-	-	0
35	-	0	15	0	0	-	4
39	0	0	0	0	15	0	3
41	0	0	0	0	0	-	0
43	0	6	0	-	-	-	2
45	0	0	22	0	-	-	6
48	0	0	0	0	0	0	0
50B	-	6	6	-	-	-	6
50C	-	0	0	0	0	-	0
51	0	0	0	0	0	-	0
52	0	0	0	0	0	-	0
54	0	-	0	0	0	0	0
55B	-	-	-	0	-	0	0
57	0	0	0	30	0	-	6
58	-	0	-	-	-	-	0
59	0	0	15	30	15	0	10
60	30	0	30	0	0	44	17
60B	-	0	0	44	0	-	11
60C	-	-	0	44	44	-	29
61	0	0	59	15	15	15	17
62	-	-	0	0	0	0	0
63	0	0	0	0	0	-	0
64	-	0	0	0	0	0	0
65	-	57	0	-	-	-	29
66B	-	-	15	-	-	-	15
68	-	0	0	-	0	0	0
69	-	0	0	0	-	-	0
69B	-	-	-	-	-	19	19
CRUISE MEAN	7	9	9	15	14	16	12

Table 9. Density (no./m^2; mean of 3 grabs) of *Sphaerium transversum* collected during 1969 Lake Winnipeg baseline survey. (- = not sampled).

Station	Cruise Number 300	400	500	600	700	800	All Cruises
1	-	-	-	0	-	-	0
2	-	281	30	89	15	163	116
3	0	0	15	30	0	-	9
3C	-	-	81	74	15	-	57
4	0	0	0	0	0	0	0
5	-	0	59	15	0	-	19
6	-	-	15	30	0	0	11
7	0	0	0	0	0	0	0
8	0	11	59	193	15	0	46
9	0	0	0	-	-	-	0
10	0	0	0	0	0	0	0
11	-	-	-	0	-	0	0
12	-	-	0	0	0	0	0
13B	-	0	-	-	-	-	0
14	0	0	0	0	0	0	0
16	-	0	0	0	0	0	0
17	-	0	0	-	0	-	0
18	0	0	0	0	0	-	0
19	-	0	0	-	-	-	0
20	-	-	0	0	-	0	0
21	-	-	0	0	0	0	0
22	-	0	0	0	-	-	0
23C	-	0	0	0	0	0	0
23E	0	0	0	0	0	-	0
24	0	-	-	-	-	-	0
25	0	0	0	0	0	0	0
26	0	22	0	15	0	-	7
27	0	30	30	-	0	-	15
28	-	22	13	0	-	0	9
31	-	0	0	0	0	-	0
33	-	0	0	-	-	-	0
35	-	0	0	0	0	-	0
39	0	0	0	0	0	0	0
41	0	0	0	0	0	-	0
43	0	0	0	-	-	-	0
45	0	0	0	0	-	-	0
48	0	0	0	0	0	0	0
50B	-	0	0	-	-	-	0
50C	-	0	0	0	0	-	0
51	0	0	0	0	0	-	0
52	0	0	0	0	0	-	0
54	0	-	0	0	0	0	0
55B	-	-	-	0	-	0	0
57	0	0	0	0	0	-	0
58	-	0	-	-	-	-	0
59	0	15	74	0	0	0	15
60	0	0	0	0	0	0	0
60B	-	0	0	0	0	-	0
60C	-	-	0	22	59	-	27
61	44	0	0	0	0	0	7
62	-	-	0	0	0	0	0
63	44	44	44	0	30	-	32
64	-	0	0	0	0	0	0
65	-	0	0	-	-	-	0
66B	-	-	0	-	-	-	0
68	-	0	0	-	0	0	0
69	-	0	0	0	-	-	0
69B	-	-	-	-	-	0	0
CRUISE MEAN	3	10	8	11	3	6	7

Table 10. Density (no./m^2; mean of 3 grabs) of unidentified Sphaerium spp. juveniles collected during 1969 Lake Winnipeg baseline survey. (- = not sampled).

Station	Cruise Number 300	400	500	600	700	800	All Cruises
1	-	-	-	0	-	-	0
2	-	0	0	0	0	0	0
3	0	0	0	0	0	-	0
3C	-	-	0	0	0	-	0
4	0	0	0	0	0	0	0
5	-	0	0	0	0	-	0
6	-	-	0	0	0	0	0
7	0	0	0	44	0	0	7
8	0	0	0	0	0	104	17
9	0	0	0	-	-	-	0
10	0	0	0	0	0	0	0
11	-	-	-	0	-	0	0
12	-	-	0	0	0	0	0
13B	-	0	-	-	-	-	0
14	0	0	0	0	0	0	0
16	-	0	0	0	0	0	0
17	-	0	0	-	0	-	0
18	0	0	0	0	0	-	0
19	-	0	0	-	-	-	0
20	-	-	0	0	-	15	5
21	-	-	0	0	0	0	0
22	-	0	0	0	-	-	0
23C	-	0	0	0	0	0	0
23E	0	0	0	0	0	-	0
24	0	-	-	-	-	-	0
25	0	0	0	0	0	30	5
26	0	0	0	0	0	-	0
27	0	0	0	-	0	-	0
28	-	0	0	0	-	0	0
31	-	0	0	0	0	-	0
33	-	0	0	-	-	-	0
35	-	0	0	0	0	-	0
39	0	0	0	0	0	0	0
41	0	0	0	0	0	-	0
43	0	0	0	-	-	-	0
45	0	0	0	0	-	-	0
48	0	0	0	0	0	59	10
50B	-	0	0	-	-	-	0
50C	-	0	0	0	0	-	0
51	0	0	0	0	15	-	3
52	0	0	0	0	0	-	0
54	0	-	0	0	0	0	0
55B	-	-	-	0	-	0	0
57	0	0	0	0	15	-	3
58	-	0	-	-	-	-	0
59	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0
60B	-	0	0	0	0	-	0
60C	-	-	0	0	0	-	0
61	0	0	0	0	0	0	0
62	-	-	0	0	0	-	0
63	0	0	0	0	0	-	0
64	-	0	0	0	0	133	27
65	-	0	0	-	-	-	0
66B	-	-	0	-	-	-	0
68	-	0	0	-	0	0	0
69	-	0	0	0	-	-	0
69B	-	-	-	-	-	0	0
CRUISE MEAN	0	0	0	1	0.8	14	1

Table 11. Density (no./m^2; mean of 3 grabs) of Pisidium casertanum collected during 1969 Lake Winnipeg baseline survey. (- = not sampled).

Station	Cruise Number 300	400	500	600	700	800	All Cruises
1	-	-	-	0	-	-	0
2	-	15	104	104	30	30	65
3	0	15	15	30	44	-	21
3C	-	-	74	59	59	-	64
4	119	526	282	296	74	74	229
5	-	311	341	296	163	-	278
6	-	-	178	503	89	0	193
7	0	30	0	0	0	0	5
8	89	33	0	133	44	30	55
9	0	74	13	-	-	-	29
10	89	178	74	59	104	89	99
11	-	-	-	0	-	44	26
12	-	-	44	0	15	44	26
13B	-	0	-	-	-	-	0
14	141	133	119	60	0	0	75
16	-	237	0	0	0	0	47
17	-	89	133	-	30	-	84
18	281	193	296	89	163	-	205
19	-	0	15	-	-	-	8
20	-	-	244	89	-	0	111
21	-	-	59	0	15	0	19
22	-	0	163	59	-	-	74
23C	-	341	311	267	30	44	199
23E	207	148	89	133	326	-	181
24	0	-	-	-	-	-	0
25	252	548	400	452	252	73	330
26	281	789	297	474	0	-	368
27	533	326	452	-	89	-	350
28	-	314	338	0	-	25	169
31	-	195	74	437	122	-	207
33	-	0	5	-	-	-	3
35	-	296	89	711	193	-	322
39	504	963	489	889	148	0	499
41	342	252	367	15	15	-	198
43	0	13	0	-	-	-	4
45	0	15	22	133	-	-	43
48	0	15	15	0	0	0	5
50B	-	0	0	-	-	-	0
50C	-	0	0	0	0	-	0
51	44	0	0	0	0	-	9
52	0	22	0	0	0	-	4
54	30	-	0	0	0	0	6
55B	-	-	-	0	-	15	7
57	0	15	44	44	15	-	24
58	-	30	-	-	-	-	30
59	59	74	163	89	0	0	64
60	89	164	74	192	30	30	97
60B	-	237	192	178	67	-	169
60C	-	-	170	370	30	-	190
61	119	148	178	148	104	74	129
62	-	-	52	0	0	-	17
63	0	33	44	89	74	-	48
64	-	192	400	356	0	0	190
65	-	13	0	-	-	-	6
66B	-	-	34	-	-	-	34
68	-	0	6	-	57	0	16
69	-	148	0	0	-	-	49
69B	-	-	-	-	-	95	95
CRUISE MEAN	122	162	127	154	61	26	100

Table 12. Density (no./m^2; mean of 3 grabs) of Pisidium compressum collected during 1969 Lake Winnipeg baseline survey. (- = not sampled).

Station	Cruise Number 300	400	500	600	700	800	All Cruises
1	-	-	-	0	-	-	0
2	-	74	0	59	89	44	53
3	0	74	0	0	56	-	26
3C	-	-	0	0	0	-	0
4	0	44	44	44	0	44	30
5	-	59	59	59	30	-	52
6	-	-	74	59	59	59	78
7	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0
9	0	0	0	-	-	-	0
10	0	0	0	0	0	0	0
11	-	-	-	0	-	0	0
12	-	-	15	44	0	0	15
13B	-	0	-	-	-	-	0
14	0	0	0	0	0	0	0
16	-	0	0	0	0	0	0
17	-	0	0	-	0	-	0
18	15	0	30	0	44	-	15
19	-	0	0	-	-	-	0
20	-	-	33	0	-	0	11
21	-	-	0	0	0	0	0
22	-	0	30	0	-	-	10
23C	-	0	0	0	0	0	0
23E	0	0	0	0	0	-	0
24	0	-	-	-	-	-	0
25	0	0	0	0	0	0	0
26	0	0	0	0	0	-	0
27	0	0	0	-	0	-	0
28	-	72	389	0	-	19	120
31	-	19	0	89	0	-	27
33	-	0	0	-	-	-	0
35	-	0	0	0	0	-	0
39	0	0	0	0	0	0	0
41	0	0	11	0	0	-	2
43	0	0	0	-	-	-	0
45	0	0	15	0	-	-	4
48	0	0	0	0	0	0	0
50B	-	0	0	-	-	-	0
50C	-	0	0	0	0	-	0
51	0	0	0	0	0	-	0
52	0	11	0	0	0	-	2
54	0	-	0	0	0	0	0
55B	-	-	-	0	-	0	0
57	0	0	15	0	0	-	3
58	-	0	-	-	-	-	0
59	0	0	0	0	0	0	0
60	44	44	30	59	0	30	35
60B	-	133	89	133	78	-	108
60C	-	-	59	74	15	-	49
61	15	74	89	29	44	15	44
62	-	-	44	0	0	-	15
63	0	11	59	15	15	-	20
64	-	15	0	0	0	0	3
65	-	6	0	-	-	-	3
66B	-	-	89	-	-	-	89
68	-	6	0	-	13	0	5
69	-	0	0	0	-	-	0
69B	-	-	-	-	-	0	0
CRUISE MEAN	3	15	23	15	11	8	14

Table 13. Density (no./m^2; mean of 3 grabs) of Pisidium conventus collected during 1969 Lake Winnipeg baseline survey. (- = not sampled).

Station	Cruise Number 300	400	500	600	700	800	All Cruises
1	-	-	-	0	-	-	0
2	-	0	15	30	0	0	9
3	0	0	0	0	22	-	4
3C	-	-	0	0	0	-	0
4	0	44	0	0	0	0	7
5	-	15	0	74	0	-	22
6	-	-	0	30	0	0	8
7	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0
9	0	0	0	-	-	-	0
10	0	15	0	0	0	0	3
11	-	-	-	0	-	0	0
12	-	-	0	0	0	0	0
13B	-	0	-	-	-	-	0
14	0	0	0	0	0	0	0
16	-	0	0	0	0	0	0
17	-	0	0	-	0	-	0
18	0	0	30	0	0	-	6
19	-	0	0	-	-	-	0
20	-	-	0	0	-	0	0
21	-	-	0	0	0	0	0
22	-	0	0	0	-	-	0
23C	-	0	0	11	0	0	2
23E	0	0	0	0	0	-	0
24	0	-	-	-	-	-	0
25	30	0	0	74	0	0	21
26	15	0	0	74	0	-	18
27	0	0	0	-	0	-	0
28	-	0	13	0	-	0	3
31	-	15	59	59	0	-	33
33	-	0	0	-	-	-	0
35	-	0	30	44	0	-	19
39	0	0	0	0	0	0	0
41	0	0	44	0	0	-	9
43	0	0	0	-	-	-	0
45	0	0	0	0	-	-	0
48	0	0	0	0	0	0	0
50B	-	0	0	-	-	-	0
50C	-	0	0	0	0	-	0
51	0	0	0	0	0	-	0
52	0	0	0	0	0	-	0
54	0	-	0	0	0	0	0
55B	-	-	-	0	-	0	0
57	0	0	0	0	0	-	0
58	-	0	-	-	-	-	0
59	0	0	0	0	0	0	0
60	0	0	15	0	0	0	3
60B	-	15	7	0	0	-	6
60C	-	-	15	15	0	-	10
61	0	0	30	0	0	0	5
62	-	-	0	0	0	-	0
63	0	0	15	0	0	-	3
64	-	0	15	0	0	0	3
65	-	0	0	-	-	-	0
66B	-	-	0	-	-	-	0
68	-	0	0	-	0	0	0
69	-	0	0	0	-	-	0
69B	-	-	-	-	-	0	0
CRUISE MEAN	2	2	6	9	0.6	0	3

Table 14. Density (no./m^2; mean of 3 grabs) of Pisidium ferrugineum collected during 1969 Lake Winnipeg baseline survey. (- = not sampled).

Station	Cruise Number 300	400	500	600	700	800	All Cruises
1	-	-	-	0	-	-	0
2	-	0	0	0	0	0	0
3	0	0	0	0	0	-	0
3C	-	-	0	0	0	-	0
4	0	0	0	0	0	0	0
5	-	0	0	0	0	-	0
6	-	-	15	0	0	0	4
7	0	0	0	0	0	0	0
8	0	11	0	0	0	0	2
9	0	0	0	-	-	-	0
10	0	0	0	0	0	0	0
11	-	-	-	0	-	0	0
12	-	-	0	0	0	0	0
13B	-	0	-	-	-	-	0
14	0	0	0	0	0	0	0
16	-	0	0	0	0	0	0
17	-	0	0	-	0	-	0
18	0	0	0	0	0	-	0
19	-	0	0	-	-	-	0
20	-	-	0	0	-	0	0
21	-	-	0	0	0	0	0
22	-	0	0	0	-	-	0
23C	-	30	0	0	0	0	6
23E	0	0	15	0	0	-	6
24	0	-	-	-	-	-	0
25	0	0	30	0	0	0	5
26	15	0	30	44	0	-	18
27	0	0	0	-	0	-	0
28	-	0	0	0	-	0	0
31	-	13	0	0	0	-	3
33	-	0	0	-	-	-	0
35	-	0	15	15	0	-	8
39	15	0	30	0	0	0	8
41	0	0	0	0	0	-	0
43	0	0	0	-	-	-	0
45	0	0	0	0	-	-	0
48	0	0	0	0	0	0	0
50B	-	0	0	-	-	-	0
50C	-	0	0	0	0	-	0
51	0	0	0	0	0	-	0
52	0	0	0	0	0	-	0
54	0	-	0	0	0	0	0
55B	-	-	-	0	-	0	0
57	0	0	0	0	0	-	0
58	-	0	-	-	-	-	0
59	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0
60B	-	0	0	0	0	-	0
60C	-	-	0	0	0	-	0
61	0	0	0	0	0	0	0
62	-	-	0	0	0	-	0
63	0	0	0	0	0	-	0
64	-	30	0	0	0	0	6
65	-	0	0	-	-	-	0
66B	-	-	0	-	-	-	0
68	-	0	0	-	0	0	0
69	-	15	0	0	-	-	5
69B	-	-	-	-	-	0	0
CRUISE MEAN	1	2	3	1	0	0	1

Table 15. Density (no./m^2; mean of 3 grabs) of Pisidium idahoense collected during 1969 Lake Winnipeg baseline survey. (- = not sampled).

Station	Cruise Number 300	400	500	600	700	800	All Cruises
1	-	-	-	0	-	-	0
2	-	0	0	0	15	0	3
3	0	0	0	0	11	-	2
3C	-	-	104	15	44	-	54
4	0	0	0	0	0	0	0
5	-	0	0	0	0	-	0
6	-	-	0	0	0	0	0
7	0	0	0	0	0	0	0
8	0	0	0	15	0	0	3
9	0	0	0	-	-	-	0
10	0	0	0	0	0	0	0
11	-	-	-	0	-	0	0
12	-	-	0	0	0	0	0
13B	-	0	-	-	-	-	0
14	0	0	0	0	0	0	0
16	-	0	0	0	0	0	0
17	-	0	0	-	0	-	0
18	74	0	0	44	30	-	30
19	-	0	0	-	-	-	0
20	-	-	44	0	-	0	15
21	-	-	0	0	0	0	0
22	-	0	0	0	-	-	0
23C	-	74	15	139	44	30	60
23E	0	15	44	0	30	-	18
24	0	-	-	-	-	-	0
25	74	44	89	74	207	0	81
26	178	100	133	44	0	-	91
27	0	0	0	-	0	-	0
28	-	170	133	15	-	25	86
31	-	0	0	0	0	-	0
33	-	0	0	-	-	-	0
35	-	89	15	59	0	-	41
39	44	15	15	81	44	15	35
41	15	89	33	0	104	-	48
43	0	0	0	-	-	-	0
45	0	0	0	0	-	-	0
48	59	15	30	0	15	15	22
50B	-	0	0	-	-	-	0
50C	-	0	0	0	0	-	0
51	0	0	0	0	0	-	0
52	15	0	0	0	0	-	3
54	0	-	0	0	0	0	0
55B	-	-	-	0	-	0	0
57	0	0	0	0	0	-	0
58	-	0	-	-	-	-	0
59	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0
60B	-	0	0	0	0	-	0
60C	-	-	0	15	0	-	5
61	0	0	0	0	0	0	0
62	-	-	0	0	0	-	0
63	0	0	0	15	0	-	3
64	-	133	89	104	15	0	68
65	-	0	0	-	-	-	0
66B	-	-	0	-	-	-	0
68	-	0	0	-	0	0	0
69	-	0	0	0	-	-	0
69B	-	-	-	-	-	0	0
CRUISE MEAN	18	17	15	14	14	3	10

Table 16. Density (no./m^2; mean of 3 grabs) of Pisidium lilljeborgi collected during 1969 Lake Winnipeg baseline survey. (- = not sampled).

Station	Cruise Number 300	400	500	600	700	800	All Cruises
1	-	-	-	0	-	-	0
2	-	133	44	30	59	74	68
3	0	0	0	0	33	-	7
3C	-	-	15	30	44	-	30
4	30	133	148	311	0	59	114
5	-	178	192	296	155	-	205
6	-	-	414	640	385	148	397
7	0	0	0	0	0	0	0
8	104	22	44	163	74	0	68
9	0	59	0	-	-	-	20
10	74	311	30	0	119	74	101
11	-	-	-	0	-	59	30
12	-	-	15	0	0	0	4
13B	-	0	-	-	-	-	0
14	30	193	133	0	0	0	59
16	-	0	0	0	0	0	0
17	-	44	15	-	0	-	20
18	207	95	104	15	193	-	123
19	-	134	0	-	-	-	67
20	-	-	211	75	-	0	95
21	-	-	59	0	0	0	15
22	-	0	44	0	-	-	15
23C	-	178	163	28	0	15	77
23E	15	163	178	15	211	-	116
24	0	-	-	-	-	-	0
25	15	207	297	252	59	0	138
26	156	294	400	578	0	-	286
27	533	696	681	-	356	-	566
28	-	453	300	0	-	44	199
31	-	274	178	763	183	-	350
33	-	0	0	-	-	-	0
35	-	496	252	1185	200	-	533
39	356	622	489	504	281	89	390
41	178	222	289	0	59	-	150
43	0	0	0	-	-	-	0
45	0	21	0	30	-	-	13
48	74	44	59	0	0	0	30
50B	-	0	0	-	-	-	0
50C	-	0	0	0	0	-	0
51	11	0	0	0	0	-	2
52	0	67	0	0	0	-	13
54	44	-	0	0	0	0	9
55B	-	-	-	0	-	15	8
57	0	104	44	148	15	-	62
58	-	89	-	-	-	-	89
59	104	178	104	252	74	0	119
60	96	74	59	178	0	30	73
60B	-	237	125	215	12	-	147
60C	-	-	89	444	44	-	192
61	15	163	74	341	74	59	121
62	-	-	7	15	0	-	7
63	0	0	30	59	89	-	36
64	-	385	104	193	0	0	136
65	-	63	0	-	-	-	32
66B	-	-	74	-	-	-	74
68	-	0	0	-	50	0	13
69	-	133	0	0	-	-	44
69B	-	-	-	-	-	208	208
CRUISE MEAN	78	147	107	154	71	34	98

Table 17. Density (no./m^2; mean of 3 grabs) of Pisidium milium collected during 1969 Lake Winnipeg baseline survey. (- = not sampled).

Station	Cruise Number 300	400	500	600	700	800	All Cruises
1	-	-	-	0	-	-	0
2	-	0	0	0	0	0	0
3	0	0	0	0	0	-	0
3C	-	-	0	0	0	-	0
4	0	0	0	0	0	0	0
5	-	0	0	0	0	-	0
6	-	-	0	0	0	0	0
7	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0
9	0	0	0	-	-	-	0
10	0	0	0	0	0	0	0
11	-	-	-	0	-	0	0
12	-	-	0	0	0	0	0
13B	-	0	-	-	-	-	0
14	0	0	0	0	0	0	0
16	-	0	0	0	0	0	0
17	-	0	0	-	0	-	0
18	0	0	0	0	0	-	0
19	-	0	0	-	-	-	0
20	-	-	0	0	-	0	0
21	-	-	0	0	0	0	0
22	-	0	0	0	-	-	0
23C	-	0	0	0	0	0	0
23E	0	0	0	0	0	-	0
24	0	-	-	-	-	-	0
25	0	0	0	15	0	0	3
26	15	0	0	0	0	-	3
27	0	0	0	-	0	-	0
28	-	0	0	0	-	0	0
31	-	0	0	44	0	-	11
33	-	0	0	-	-	-	0
35	-	15	0	15	0	-	8
39	0	0	0	0	0	0	0
41	0	0	0	0	15	-	3
43	0	0	0	-	-	-	0
45	0	0	0	0	-	-	0
48	0	0	0	0	0	0	0
50B	-	0	0	-	-	-	0
50C	-	0	0	0	0	-	0
51	0	0	0	0	0	-	0
52	0	0	0	0	0	-	0
54	0	-	0	0	0	0	0
55B	-	-	-	0	-	0	0
57	0	0	0	0	0	-	0
58	-	0	-	-	-	-	0
59	0	0	0	0	0	0	0
60	0	15	0	0	0	0	3
60B	-	0	0	0	0	-	0
60C	-	-	0	0	0	-	0
61	0	0	0	0	0	0	0
62	-	-	0	0	0	-	0
63	0	0	0	0	0	-	0
64	-	0	0	0	0	0	0
65	-	0	0	-	-	-	0
66B	-	-	0	-	-	-	0
68	-	0	0	-	0	0	0
69	-	0	0	0	-	-	0
69B	-	-	-	-	-	0	0
CRUISE MEAN	0.6	0.7	0	1.7	0.4	0	0.4

Table 18. Density (no./m^2; mean of 3 grabs) of Pisdium nitidum collected during 1969 Lake Winnipeg baseline survey. (- = not sampled).

Station	Cruise Number 300	400	500	600	700	800	All Cruises
1	-	-	-	0	-	-	0
2	-	44	0	15	0	0	12
3	0	0	0	30	0	-	6
3C	-	-	0	44	0	-	15
4	15	44	15	74	0	0	25
5	-	15	74	59	15	-	41
6	-	-	185	59	0	0	61
7	0	0	0	0	0	0	0
8	0	0	30	0	0	0	5
9	0	30	0	-	-	-	10
10	0	119	30	0	15	0	27
11	-	-	-	0	-	0	0
12	-	-	44	0	0	0	11
13B	-	0	-	-	-	-	0
14	0	15	30	0	0	0	9
16	-	0	0	0	0	0	0
17	-	0	59	-	0	-	20
18	0	0	30	0	15	-	11
19	-	0	0	-	-	-	0
20	-	-	22	0	-	0	7
21	-	-	0	0	0	0	0
22	-	0	15	0	-	-	5
23C	-	89	0	56	0	59	41
23E	15	30	15	0	0	-	12
24	0	-	-	-	-	-	0
25	30	30	74	30	0	0	27
26	15	100	30	44	0	-	38
27	0	104	341	-	74	-	130
28	-	41	66	0	-	6	28
31	-	6	30	59	0	-	24
33	-	0	5	-	-	-	3
35	-	30	30	59	0	-	30
39	59	126	0	0	0	0	31
41	0	74	33	0	0	-	21
43	0	0	0	-	-	-	11
45	0	6	22	15	-	-	11
48	0	0	0	0	0	0	0
50B	-	0	0	-	-	-	0
50C	-	0	0	0	0	-	0
51	22	0	0	0	0	-	4
52	0	11	0	0	0	-	2
54	30	-	0	0	0	0	6
55B	-	-	-	0	-	0	0
57	0	0	0	0	0	-	0
58	-	15	-	-	-	-	15
59	15	59	30	0	0	0	17
60	0	104	15	59	0	0	30
60B	-	178	15	29	0	-	56
60C	-	-	148	0	44	-	64
61	30	89	0	15	0	0	22
62	-	-	0	0	0	-	0
63	0	0	59	15	15	-	18
64	-	15	74	0	0	0	18
65	-	0	0	-	-	-	0
66B	-	-	15	-	-	-	15
68	-	0	0	-	18	0	5
69	-	22	0	0	-	-	7
69B	-	-	-	-	-	0	0
CRUISE MEAN	9	32	30	15	5	3	16

Table 19. Density (no./m^2; mean of 3 grabs) of Pisidium obtusale collected during 1969 Lake Winnipeg baseline survey. (- = not sampled).

Station	Cruise Number 300	400	500	600	700	800	All Cruises
1	-	-	-	0	-	-	0
2	-	0	0	0	0	0	0
3	0	0	0	0	0	-	0
3C	-	-	0	0	0	-	0
4	0	0	0	0	0	0	0
5	-	0	0	0	0	-	0
6	-	-	0	0	0	0	0
7	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0
9	0	0	0	-	-	-	0
10	0	0	0	0	0	0	0
11	-	-	-	0	-	0	0
12	-	-	0	0	0	0	0
13B	-	0	-	-	-	-	0
14	0	15	0	0	0	0	3
16	-	0	0	0	0	0	0
17	-	0	0	-	0	-	0
18	0	0	0	0	0	-	0
19	-	0	0	-	-	-	0
20	-	-	0	0	-	0	0
21	-	-	0	0	0	0	0
22	-	0	0	0	-	-	0
23C	-	15	22	78	44	0	29
23E	0	0	0	0	0	-	0
24	0	-	-	-	-	-	0
25	0	44	30	163	15	0	42
26	59	144	30	604	0	-	167
27	0	0	0	-	0	-	0
28	-	0	0	0	-	0	0
31	-	0	0	0	0	-	0
33	-	0	0	-	-	-	0
35	-	96	30	237	15	-	95
39	30	119	104	30	0	15	50
41	44	44	78	0	15	-	36
43	0	0	0	-	-	-	0
45	0	0	0	0	-	-	0
48	0	0	0	0	0	0	0
50B	-	0	0	-	-	-	0
50C	-	0	0	0	0	-	0
51	0	0	0	0	0	-	0
52	0	0	0	0	0	-	0
54	0	-	0	0	0	0	0
55B	-	-	-	0	-	0	0
57	0	0	0	0	0	-	0
58	-	0	-	-	-	-	0
59	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0
60B	-	0	0	0	0	-	0
60C	-	-	0	0	0	-	0
61	0	0	0	0	0	0	0
62	-	-	0	0	0	-	0
63	0	0	0	0	0	-	0
64	-	0	0	0	0	0	0
65	-	0	0	-	-	-	0
66B	-	-	0	-	-	-	0
68	-	0	0	-	0	0	0
69	-	0	0	0	-	-	0
69B	-	-	-	-	-	0	0
CRUISE MEAN	5	11	6	25	2	0.6	7

Table 20. Density (no./m^2; mean of 3 grabs) of Pisidium punctiferum collected during 1969 Lake Winnipeg baseline survey. (- = not sampled).

Station	Cruise Number 300	400	500	600	700	800	All Cruises
1	-	-	-	0	-	-	0
2	-	0	0	0	0	0	0
3	0	0	0	0	11	-	2
3C	-	-	30	0	0	-	10
4	0	0	0	0	0	0	0
5	-	0	15	0	0	-	4
6	-	-	0	30	15	0	11
7	0	0	0	0	0	0	0
8	15	0	0	0	0	0	3
9	0	0	0	-	-	-	0
10	0	0	0	0	0	0	0
11	-	-	-	0	-	0	0
12	-	-	0	0	0	0	0
13B	-	0	-	-	-	-	0
14	0	0	0	0	0	0	0
16	-	0	0	0	0	0	0
17	-	0	0	-	0	-	0
18	15	15	15	0	0	-	9
19	-	0	0	-	-	-	0
20	-	-	0	0	-	0	0
21	-	-	0	0	0	0	0
22	-	0	0	0	-	-	0
23C	-	0	15	0	0	0	3
23E	0	15	0	0	44	-	12
24	0	-	-	-	-	-	0
25	15	15	0	0	0	0	5
26	30	0	15	15	0	-	12
27	0	0	0	-	0	-	0
28	-	0	0	0	-	0	0
31	-	0	0	0	0	-	0
33	-	0	0	-	-	-	0
35	-	15	0	74	30	-	30
39	0	0	0	0	0	0	0
41	0	0	0	0	0	-	0
43	0	0	0	-	-	-	0
45	0	0	0	0	-	-	0
48	15	0	0	0	0	0	3
50B	-	0	0	-	-	-	0
50C	-	0	0	0	0	-	0
51	0	0	0	0	0	-	0
52	0	0	0	0	0	-	0
54	0	-	0	0	0	0	0
55B	-	-	-	0	-	0	0
57	0	0	0	0	0	-	0
58	-	0	-	-	-	-	0
59	44	0	30	0	0	0	12
60	0	0	0	0	0	0	0
60B	-	0	0	29	0	-	7
60C	-	-	0	29	0	-	10
61	0	0	0	0	0	0	0
62	-	-	0	0	0	-	0
63	0	0	0	0	0	-	0
64	-	0	0	15	0	0	3
65	-	0	0	-	-	-	0
66B	-	-	0	-	-	-	0
68	-	0	0	-	0	0	0
69	-	0	0	0	-	-	0
69B	-	-	-	-	-	0	0
CRUISE MEAN	5	1	2	4	3	0	2

Table 21. Density (no./m^2; mean of 3 grabs) of Pisidium subtruncatum collected during 1969 Lake Winnipeg baseline survey. (- = not sampled).

Station	Cruise Number 300	400	500	600	700	800	All Cruises
1	-	-	-	0	-	-	0
2	-	0	0	0	0	0	0
3	0	0	0	0	0	-	0
3C	-	-	0	0	0	-	0
4	0	15	0	15	0	0	5
5	-	0	0	0	0	-	0
6	-	-	59	0	0	0	15
7	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0
9	0	0	0	-	-	-	0
10	0	15	0	0	0	0	3
11	-	-	-	0	-	0	0
12	-	-	0	0	0	0	0
13B	-	6	-	-	-	-	6
14	0	0	0	0	0	0	0
16	-	0	0	0	0	0	0
17	-	0	0	-	0	-	0
18	0	0	0	0	0	-	0
19	-	0	0	-	-	-	0
20	-	-	33	0	-	0	11
21	-	-	0	0	0	0	0
22	-	0	30	0	-	-	10
23C	-	0	0	0	0	0	0
23E	0	0	0	0	0	-	0
24	0	-	-	-	-	-	0
25	0	0	44	0	0	0	7
26	15	0	0	59	0	-	15
27	30	0	30	-	15	-	19
28	-	0	32	0	-	6	10
31	-	0	0	0	0	-	0
33	-	0	5	-	-	-	3
35	-	0	59	89	30	-	45
39	0	30	15	15	30	0	15
41	0	30	56	0	0	-	17
43	0	0	0	-	-	-	0
45	0	0	0	0	-	-	0
48	0	0	0	0	0	0	0
50B	-	0	0	-	-	-	0
50C	-	0	0	0	0	-	0
51	0	0	0	0	0	-	0
52	0	0	0	0	0	-	0
54	0	-	0	0	0	0	0
55B	-	-	-	0	-	0	0
57	0	0	15	0	0	-	3
58	-	0	-	-	-	-	0
59	15	0	0	0	0	0	3
60	0	0	15	15	0	0	5
60B	-	44	15	0	0	-	15
60C	-	-	0	0	0	-	0
61	0	0	15	0	0	0	3
62	-	-	15	0	0	-	5
63	0	0	15	0	0	-	3
64	-	0	0	0	0	0	0
65	-	0	0	-	-	-	0
66B	-	-	0	-	-	-	0
68	-	0	0	-	0	0	0
69	-	0	0	0	-	-	0
69B	-	-	-	-	-	0	0
CRUISE MEAN	2	3	9	4	2	0.2	4

Table 22. Density (no./m^2; mean of 3 grabs) of *Pisidium variable* collected during 1969 Lake Winnipeg baseline survey. (- = not sampled).

Station	Cruise Number 300	400	500	600	700	800	All Cruises
1	-	-	-	0	-	-	0
2	-	0	0	0	0	7	1
3	0	0	0	0	0	-	0
3C	-	-	0	0	0	-	0
4	0	0	44	0	0	7	9
5	-	15	0	0	0	-	4
6	-	-	15	0	0	0	4
7	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0
9	0	15	0	-	-	-	5
10	15	15	0	0	0	0	5
11	-	-	-	0	-	0	0
12	-	-	15	0	0	0	4
13B	-	0	-	-	-	-	0
14	0	0	15	0	0	0	3
16	-	0	0	0	0	0	0
17	-	0	0	-	0	-	0
18	0	0	15	0	0	-	3
19	-	0	0	-	-	-	0
20	-	-	0	0	-	0	0
21	-	-	0	0	0	0	0
22	-	0	0	0	-	-	0
23C	-	15	59	0	0	0	15
23E	0	0	0	0	0	-	0
24	0	-	-	-	-	-	0
25	15	0	15	0	0	15	8
26	0	111	15	0	0	-	25
27	0	59	15	-	0	-	19
28	-	32	398	0	-	0	108
31	-	154	15	22	11	-	51
33	-	0	0	-	-	-	0
35	-	15	0	0	0	-	4
39	15	0	0	0	0	0	3
41	0	89	22	0	0	-	22
43	0	0	0	-	-	-	0
45	0	0	0	0	-	-	0
48	0	0	0	0	0	0	0
50B	-	18	0	-	-	-	9
50C	-	0	0	0	0	-	0
51	0	0	0	0	0	-	0
52	0	0	0	0	0	-	0
54	0	-	0	0	0	0	0
55B	-	-	-	0	-	0	0
57	0	0	15	0	0	-	3
58	-	0	-	-	-	-	0
59	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0
60B	-	0	0	0	0	-	0
60C	-	-	0	29	0	-	10
61	0	0	0	0	0	0	0
62	-	-	0	0	0	-	0
63	0	0	0	0	30	-	6
64	-	0	0	0	0	0	0
65	-	0	0	-	-	-	0
66B	-	-	119	-	-	-	119
68	-	0	0	-	13	0	3
69	-	0	11	0	-	-	4
69B	-	-	-	-	-	0	0
CRUISE MEAN	2	12	15	1	1	1	8

Table 23. Density (no./m^2; mean of 3 grabs) of Pisidium walkeri collected during 1969 Lake Winnipeg baseline survey. (- = not sampled).

Station	Cruise Number 300	400	500	600	700	800	All Cruises
1	-	-	-	0	-	-	0
2	-	0	0	0	15	0	3
3	0	30	0	0	0	-	6
3C	-	-	15	0	15	-	10
4	0	15	15	0	0	7	6
5	-	0	15	0	0	-	4
6	-	-	15	15	0	0	8
7	0	0	0	0	0	0	0
8	15	0	15	15	59	0	17
9	0	0	0	-	-	-	0
10	0	0	0	0	0	0	0
11	-	-	-	0	-	0	0
12	-	-	0	0	0	0	0
13B	-	0	-	-	-	-	0
14	0	0	0	0	0	0	0
16	-	0	0	0	0	0	0
17	-	0	0	-	0	-	0
18	0	0	0	0	0	-	0
19	-	0	0	-	-	-	0
20	-	-	0	0	-	0	0
21	-	-	0	0	0	0	0
22	-	0	0	0	-	-	0
23C	-	0	0	0	0	0	0
23E	0	0	0	0	0	-	0
24	0	-	-	-	-	-	0
25	7	15	0	0	0	0	4
26	0	0	0	0	0	-	0
27	0	0	0	-	0	-	0
28	-	0	32	0	-	6	10
31	-	0	0	15	0	-	4
33	-	0	0	-	-	-	0
35	-	15	0	0	15	-	8
39	0	15	0	0	0	0	3
41	0	0	0	0	0	-	0
43	0	0	0	-	-	-	0
45	0	0	0	0	-	-	0
48	0	0	0	0	0	0	0
50B	-	0	0	-	-	-	0
50C	-	0	0	0	0	-	0
51	0	0	0	0	0	-	0
52	0	0	0	0	0	-	0
54	0	-	0	0	0	0	0
55B	-	-	-	0	-	0	0
57	0	0	0	0	0	-	0
58	-	0	-	-	-	-	0
59	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0
60B	-	0	0	0	0	-	0
60C	-	-	0	0	0	-	0
61	15	0	0	0	0	0	3
62	-	-	0	0	0	-	0
63	0	44	0	0	0	-	9
64	-	0	0	0	0	0	0
65	-	0	0	-	-	-	0
66B	-	-	0	-	-	-	0
68	-	0	0	-	0	0	0
69	-	0	0	0	-	-	0
69B	-	-	-	-	-	0	0
CRUISE MEAN	1	3	2	1	3	0.2	2

Table 24. Density (no./m^2; mean of 3 grabs) of unidentified Pisidium juveniles collected during 1969 Lake Winnipeg baseline survey. (- = not sampled).

Station	Cruise Number 300	400	500	600	700	800	All Cruises
1	-	-	-	0	-	-	0
2	-	0	0	0	0	0	0
3	0	0	0	0	0	-	0
3C	-	-	0	0	0	-	0
4	0	0	0	0	0	0	0
5	-	0	0	0	0	-	0
6	-	-	0	0	0	652	163
7	0	0	0	15	0	74	15
8	0	0	0	0	0	281	47
9	0	0	0	-	-	-	0
10	0	0	0	0	0	326	54
11	-	-	-	0	-	0	0
12	-	-	0	30	0	209	60
13B	-	0	-	-	-	-	0
14	0	0	0	296	785	74	193
16	-	237	889	177	356	592	450
17	-	0	0	-	0	-	0
18	0	0	0	0	0	-	0
19	-	0	0	-	-	-	0
20	-	-	0	0	-	474	158
21	-	-	0	0	372	385	189
22	-	0	0	0	-	-	0
23C	-	0	0	0	533	30	113
23E	0	0	0	0	0	-	0
24	0	-	-	-	-	-	0
25	0	0	0	0	0	400	67
26	0	0	0	0	0	-	0
27	0	0	0	-	0	-	0
28	-	0	0	1022	-	0	256
31	-	0	0	0	0	-	0
33	-	0	0	-	-	-	0
35	-	0	0	0	0	-	0
39	0	0	0	0	0	133	22
41	0	0	0	0	0	-	0
43	0	0	0	-	-	-	0
45	0	0	0	0	-	-	0
48	0	0	0	311	44	207	94
50B	-	0	0	-	-	-	0
50C	-	0	0	0	0	-	0
51	0	0	30	355	267	-	130
52	0	0	148	562	0	-	142
54	0	-	193	555	192	148	218
55B	-	-	-	0	-	163	82
57	0	0	0	0	30	-	6
58	-	0	-	-	-	-	0
59	0	0	0	0	0	119	20
60	0	0	0	0	0	0	0
60B	-	0	0	0	0	-	0
60C	-	-	0	0	0	-	0
61	0	0	0	0	0	0	0
62	-	-	0	0	0	-	0
63	0	0	0	0	0	-	0
64	-	0	0	0	89	311	80
65	-	0	0	-	-	-	0
66B	-	-	0	-	-	-	0
68	-	0	32	-	0	0	8
69	-	0	378	770	-	-	383
69B	-	-	-	-	-	0	0
CRUISE MEAN	0	6	33	93	68	176	51

Table 25. Density (no./m^2; mean of 3 grabs) of Valvata sincera sincera collected during 1969 Lake Winnipeg baseline survey. (- = not sampled).

Station	Cruise Number 300	400	500	600	700	800	All Cruises
1	-	-	-	0	-	-	0
2	-	15	0	0	0	0	3
3	0	0	0	0	0	-	0
3C	-	-	0	0	0	-	0
4	0	30	0	0	0	0	5
5	-	0	0	0	0	-	0
6	-	-	0	0	0	0	0
7	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0
9	0	0	0	-	-	-	0
10	15	0	0	0	0	0	3
11	-	-	-	0	-	0	0
12	-	-	0	0	0	0	0
13B	-	0	-	-	-	-	0
14	0	0	0	0	0	0	0
16	-	0	0	0	0	0	0
17	-	0	0	-	0	-	0
18	0	0	15	0	0	-	3
19	-	0	0	-	-	-	0
20	-	-	0	0	-	0	0
21	-	-	11	0	0	0	3
22	-	0	74	30	-	-	35
23C	-	119	104	67	30	148	94
23E	44	15	15	0	60	-	27
24	0	-	-	-	-	-	0
25	104	89	59	44	311	148	126
26	104	122	30	104	0	-	72
27	0	119	15	-	15	-	37
28	-	11	0	0	-	0	3
31	-	133	30	681	400	-	311
33	-	0	0	-	-	-	0
35	-	44	30	104	30	-	52
39	44	59	30	148	74	30	64
41	30	104	178	0	104	-	83
43	0	0	0	-	-	-	0
45	0	0	0	0	-	-	0
48	43	0	0	0	30	44	20
50B	-	0	0	-	-	-	0
50C	-	0	0	0	0	-	0
51	0	0	0	0	0	-	0
52	0	0	0	0	0	-	0
54	0	-	0	0	0	0	0
55B	-	-	-	0	-	0	0
57	0	0	0	0	0	-	0
58	-	0	-	-	-	-	0
59	0	0	0	0	0	15	3
60	0	0	0	0	0	0	0
60B	-	0	0	0	0	-	0
60C	-	-	0	0	0	-	0
61	0	0	0	0	0	0	0
62	-	-	0	0	0	-	0
63	0	0	0	0	0	-	0
64	-	15	15	0	30	0	12
65	-	0	0	-	-	-	0
66B	-	-	0	-	-	-	0
68	-	0	0	-	0	0	0
69	-	0	0	0	-	-	0
69B	-	-	-	-	-	0	0
CRUISE MEAN	15	20	11	27	28	15	16

Table 26. Density (no./m^2; mean of 3 grabs) of Valvata tricarinata collected during 1969 Lake Winnipeg baseline survey. (- = not sampled).

Station	Cruise Number 300	400	500	600	700	800	All Cruises
1	-	-	-	15	-	-	15
2	-	30	0	0	0	0	6
3	0	0	0	0	0	-	0
3C	-	-	0	0	0	-	0
4	0	0	0	0	0	0	0
5	-	59	15	15	89	-	45
6	-	-	0	0	0	0	0
7	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0
9	0	15	0	-	-	-	5
10	148	104	104	104	133	133	121
11	-	-	-	0	-	0	0
12	-	-	44	0	0	0	11
13B	-	0	-	-	-	-	0
14	0	0	0	0	0	0	0
16	-	0	0	0	0	0	0
17	-	0	0	-	0	-	0
18	30	15	15	30	44	-	27
19	-	0	0	-	-	-	0
20	-	-	33	0	-	30	21
21	-	-	0	0	0	0	0
22	-	0	74	44	-	-	39
23C	-	74	119	100	15	89	79
23E	0	0	59	15	15	-	18
24	0	-	-	-	-	-	0
25	30	89	30	0	104	15	45
26	104	44	59	133	0	-	68
27	44	163	0	-	74	-	70
28	-	122	152	30	-	0	76
31	-	126	30	252	74	-	121
33	-	0	0	-	-	-	0
35	-	74	0	119	74	-	67
39	15	44	59	119	44	59	57
41	15	89	56	0	104	-	53
43	0	19	6	-	-	-	8
45	0	0	0	0	-	-	0
48	59	45	44	0	59	15	37
50B	-	0	0	-	-	-	0
50C	-	0	0	0	0	-	0
51	0	0	0	0	0	-	0
52	0	0	0	0	0	-	0
54	0	-	0	0	0	0	0
55B	-	-	-	0	-	0	0
57	193	0	0	89	74	-	71
58	-	0	-	-	-	-	0
59	308	148	133	252	119	44	167
60	0	0	0	0	0	0	0
60B	-	0	0	0	0	-	0
60C	-	-	0	0	0	-	0
61	0	0	0	0	0	0	0
62	-	-	0	0	0	-	0
63	0	0	30	0	0	-	6
64	-	89	89	119	89	104	98
65	-	6	0	-	-	-	3
66B	-	-	15	-	-	-	15
68	-	0	0	-	0	0	0
69	-	0	0	0	-	-	0
69B	-	-	-	-	-	170	170
CRUISE MEAN	36	31	23	33	29	25	21

Table 27. Density (no./m^2; mean of 3 grabs) of Cincinnatia cincinnatiensis collected during 1969 Lake Winnipeg baseline survey. (- = not sampled).

Station	Cruise Number 300	400	500	600	700	800	All Cruises
1	-	-	-	0	-	-	0
2	-	148	15	222	59	178	124
3	30	0	15	0	0	-	9
3C	-	-	30	30	0	-	20
4	15	0	163	59	193	0	72
5	-	74	104	89	74	-	85
6	-	-	0	0	0	0	0
7	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0
9	0	0	0	-	-	-	0
10	44	15	30	30	30	30	30
11	-	-	-	0	-	15	8
12	-	-	0	44	0	0	11
13B	-	0	-	-	-	-	0
14	0	0	0	0	0	0	0
16	-	0	0	0	0	0	0
17	-	0	0	-	0	-	0
18	0	0	0	0	0	-	0
19	-	0	0	-	-	-	0
20	-	-	0	30	-	0	10
21	-	-	0	0	0	0	0
22	-	0	0	0	-	-	0
23C	-	0	0	0	0	0	0
23E	0	0	0	0	0	-	0
24	0	-	-	-	-	-	0
25	0	0	0	0	0	0	0
26	0	0	0	0	0	-	0
27	0	0	0	-	0	-	0
28	-	0	0	0	-	0	0
31	-	0	0	0	15	-	4
33	-	0	0	-	-	-	0
35	-	0	0	0	0	-	0
39	0	0	0	0	0	0	0
41	0	0	0	0	0	-	0
43	6	0	0	-	-	-	2
45	0	0	0	0	-	-	0
48	0	0	0	0	0	0	0
50B	-	0	0	-	-	-	0
50C	-	0	0	0	15	-	4
51	0	0	0	0	0	-	0
52	0	0	0	0	0	-	0
54	0	-	0	0	0	0	0
55B	-	-	-	0	-	0	0
57	0	0	0	0	0	-	0
58	-	0	-	-	-	-	0
59	44	15	74	30	89	59	52
60	59	30	44	30	30	0	32
60B	-	0	0	0	0	-	0
60C	-	-	15	0	15	-	10
61	44	44	59	44	30	30	42
62	-	-	119	0	0	-	40
63	89	0	207	104	459	-	172
64	-	0	0	0	0	0	0
65	-	32	13	-	-	-	23
66B	-	-	44	-	-	-	44
68	-	0	0	-	0	0	0
69	-	0	0	0	-	-	0
69B	-	-	-	-	-	0	0
CRUISE MEAN	13	8	18	16	26	12	14

Table 28. Density (no./m^2; mean of 3 grabs) of Probythinella lacustris collected during 1969 Lake Winnipeg baseline survey. (- = not sampled).

Station	Cruise Number 300	400	500	600	700	800	All Cruises
1	-	-	-	59	-	-	59
2	-	741	15	1244	237	74	385
3	0	15	0	0	0	-	3
3C	-	-	282	44	0	-	163
4	281	874	1061	267	148	163	466
5	-	563	504	415	502	-	496
6	-	-	504	667	281	193	411
7	0	0	0	0	0	0	0
8	30	0	0	15	30	44	20
9	15	15	6	-	-	-	12
10	133	44	74	104	89	0	74
11	-	-	-	0	-	89	45
12	-	-	119	0	0	0	30
13B	-	0	-	-	-	-	0
14	74	0	59	0	0	0	22
16	-	0	0	0	0	0	0
17	-	0	0	-	0	-	0
18	15	0	74	0	30	-	24
19	-	0	0	-	-	-	0
20	-	-	111	0	-	0	37
21	-	-	0	0	0	0	0
22	-	0	89	0	-	-	30
23C	-	44	59	11	0	0	23
23E	44	30	0	0	0	-	15
24	0	-	-	-	-	-	0
25	0	30	30	0	74	15	25
26	44	11	15	0	0	-	14
27	400	563	859	-	44	-	467
28	-	4	38	0	-	0	11
31	-	158	119	681	104	-	266
33	-	0	0	-	-	-	0
35	-	0	0	15	15	-	8
39	15	0	44	15	0	0	12
41	0	15	11	0	30	-	11
43	0	6	0	-	-	-	2
45	0	6	0	0	-	-	2
48	0	15	0	0	0	0	3
50B	-	25	6	-	-	-	16
50C	-	0	0	0	0	-	0
51	0	0	0	0	0	-	0
52	0	0	0	0	0	-	0
54	15	-	0	0	0	0	3
55B	-	-	-	0	-	0	0
57	74	59	30	30	44	-	47
58	-	0	-	-	-	-	0
59	89	104	44	44	30	0	52
60	193	163	104	282	0	15	126
60B	-	415	415	267	344	-	360
60C	-	-	185	430	386	-	334
61	104	252	267	326	238	104	215
62	-	-	593	0	0	-	198
63	133	0	755	400	634	-	384
64	-	74	59	74	0	89	59
65	-	240	0	-	-	-	120
66B	-	-	0	-	-	-	0
68	-	0	0	-	0	0	0
69	-	0	0	0	-	-	0
69B	-	-	-	-	-	227	227
CRUISE MEAN	64	102	128	123	81	39	91

Table 29. Density (no./m^2; mean of 3 grabs) of Amnicola limosa collected during 1969 Lake Winnipeg baseline survey. (- = not sampled).

Station	Cruise Number 300	400	500	600	700	800	All Cruises
1	-	-	-	0	-	-	0
2	-	44	30	282	74	119	110
3	1174	0	30	0	30	-	247
3C	-	-	0	0	0	-	0
4	15	30	74	0	44	0	27
5	-	30	59	0	119	-	52
6	-	-	0	15	15	0	8
7	0	0	0	0	0	0	0
8	0	0	0	0	15	0	3
9	0	15	0	-	-	-	5
10	59	30	0	0	0	30	20
11	-	-	-	0	-	0	0
12	-	-	0	133	89	66	72
13B	-	0	-	-	-	-	0
14	30	15	0	0	252	252	92
16	-	15	44	0	0	0	12
17	-	15	15	-	0	-	10
18	0	0	0	0	15	-	3
19	-	0	0	-	-	-	0
20	-	-	89	59	-	89	79
21	-	-	56	0	0	0	14
22	-	0	0	0	-	-	0
23C	-	0	0	67	0	0	13
23E	0	0	0	0	15	-	3
24	0	-	-	-	-	-	0
25	15	0	0	0	0	0	3
26	15	0	44	30	0	-	18
27	222	385	178	-	104	-	222
28	-	32	234	0	-	0	67
31	-	69	0	311	74	-	114
33	-	0	6	-	-	-	3
35	-	15	0	0	0	-	4
39	0	0	0	0	0	0	0
41	0	0	0	15	0	-	3
43	0	25	76	-	-	-	34
45	0	0	0	30	-	-	8
48	0	15	0	30	0	0	9
50B	-	19	19	-	-	-	19
50C	-	0	6	0	0	-	2
51	0	0	0	0	0	-	0
52	0	0	0	0	0	-	0
54	30	-	0	0	0	0	6
55B	-	-	-	0	-	0	0
57	0	0	0	15	44	-	12
58	-	0	-	-	-	-	0
59	44	0	0	44	30	74	32
60	0	30	0	89	30	0	25
60B	-	0	0	0	0	-	0
60C	-	-	59	0	0	-	20
61	0	0	0	0	30	0	5
62	-	-	30	0	0	-	10
63	104	0	89	15	370	-	116
64	-	0	30	15	0	0	9
65	-	95	25	-	-	-	60
66B	-	-	192	-	-	-	192
68	-	0	6	-	0	0	2
69	-	0	0	15	-	-	5
69B	-	-	-	-	-	0	0
CRUISE MEAN	66	20	27	26	35	24	31

Table 30. Density (no./m^2; mean of 3 grabs) of Lymnaea spp. collected during 1969 Lake Winnipeg baseline survey. (- = not sampled).

Station	Cruise Number 300	400	500	600	700	800	All Cruises
1	-	-	-	0	-	-	0
2	-	0	15	0	0	0	3
3	0	0	0	0	0	-	0
3C	-	-	0	0	0	-	0
4	0	0	0	0	0	0	0
5	-	0	0	0	0	-	0
6	-	-	0	0	0	0	0
7	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0
9	0	0	0	-	-	-	0
10	0	0	0	0	0	0	0
11	-	-	-	0	-	0	0
12	-	-	0	0	0	0	0
13B	-	0	-	-	-	-	0
14	0	0	0	0	0	0	0
16	-	0	0	0	0	0	0
17	-	0	0	-	0	-	0
18	0	0	0	0	0	-	0
19	-	0	0	-	-	-	0
20	-	-	0	0	-	0	0
21	-	-	0	0	0	0	0
22	-	0	0	0	-	-	0
23C	-	0	0	0	0	0	0
23E	0	0	0	0	0	-	0
24	0	-	-	-	-	-	0
25	0	0	0	0	0	0	0
26	0	0	0	0	0	-	0
27	0	0	0	-	0	-	0
28	-	0	13	0	-	0	3
31	-	7	0	0	0	-	2
33	-	0	0	-	-	-	0
35	-	0	0	0	0	-	0
39	0	0	0	0	0	0	0
41	0	0	0	0	0	-	0
43	0	0	0	-	-	-	0
45	0	0	0	0	-	-	0
48	0	0	0	0	0	0	0
50B	-	0	0	-	-	-	0
50C	-	0	0	0	0	-	0
51	0	0	0	0	0	-	0
52	0	0	0	0	0	-	0
54	0	-	0	0	0	0	0
55B	-	-	-	0	-	0	0
57	0	0	0	0	0	-	0
58	-	0	-	-	-	-	0
59	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0
60B	-	0	0	0	0	-	0
60C	-	-	0	0	0	-	0
61	0	0	0	0	0	0	0
62	-	-	0	0	0	-	0
63	0	0	0	0	0	-	0
64	-	0	0	0	0	0	0
65	-	0	0	-	-	-	0
66B	-	-	0	-	-	-	0
68	-	0	0	-	0	0	0
69	-	0	0	0	-	-	0
69B	-	-	-	-	-	0	0
CRUISE MEAN	0	0.2	0.5	0	0	0	0.1

Table 31. Density (no./m^2; mean of 3 grabs) of Physa jennessi skinneri collected during 1969 Lake Winnipeg baseline survey. (- = not sampled).

Station	Cruise Number 300	400	500	600	700	800	All Cruises
1	-	-	-	15	-	-	15
2	-	0	0	15	15	0	6
3	0	0	0	0	0	-	0
3C	-	-	0	0	0	-	0
4	0	15	15	0	0	0	5
5	-	0	15	0	0	-	4
6	-	-	15	15	0	0	8
7	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0
9	0	0	0	-	-	-	0
10	30	0	0	0	0	15	8
11	-	-	-	0	-	0	0
12	-	-	0	0	0	0	0
13B	-	0	-	-	-	-	0
14	0	0	0	0	0	0	0
16	-	0	0	0	0	0	0
17	-	0	0	-	0	-	0
18	0	0	0	0	0	-	0
19	-	0	0	-	-	-	0
20	-	-	0	0	-	0	0
21	-	-	0	0	0	0	0
22	-	0	0	0	-	-	0
23C	-	0	0	0	0	0	0
23E	0	0	0	0	15	-	3
24	0	-	-	-	-	-	0
25	0	0	0	0	0	0	0
26	0	0	0	0	0	-	0
27	0	0	0	-	0	-	0
28	-	0	0	0	-	0	0
31	-	0	0	15	0	-	4
33	-	0	0	-	-	-	0
35	-	0	0	0	0	-	0
39	0	0	0	0	0	0	0
41	0	0	0	0	15	-	3
43	0	0	0	-	-	-	0
45	0	0	0	0	-	-	0
48	0	15	0	0	0	15	5
50B	-	0	0	-	-	-	0
50C	-	0	0	0	0	-	0
51	0	0	0	0	0	-	0
52	0	0	0	0	0	-	0
54	0	-	0	0	0	0	0
55B	-	-	-	0	-	15	8
57	0	0	0	15	0	-	3
58	-	0	-	-	-	-	0
59	0	0	0	15	0	0	3
60	0	15	0	15	0	0	5
60B	-	15	0	15	0	-	8
60C	-	-	0	15	0	-	5
61	0	15	0	0	0	0	3
62	-	-	15	0	0	-	5
63	0	0	15	0	0	-	3
64	-	0	15	0	0	0	3
65	-	0	0	-	-	-	0
66B	-	-	0	-	-	-	0
68	-	0	0	-	0	0	0
69	-	0	0	0	-	-	0
69B	-	-	-	-	-	0	0
CRUISE MEAN	1	2	2	1	1	2	2

Table 32. Density (no./m^2; mean of 3 grabs) of Planorbula sp. collected during 1969 Lake Winnipeg baseline survey. (- = not sampled).

Station	Cruise Number 300	400	500	600	700	800	All Cruises
1	-	-	-	15	-	-	15
2	-	15	0	0	0	0	3
3	0	0	0	0	0	-	0
3C	-	-	0	0	0	-	0
4	0	89	0	0	0	0	15
5	-	0	0	0	0	-	0
6	-	-	0	0	0	0	0
7	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0
9	0	0	0	-	-	-	0
10	0	0	0	0	0	0	0
11	-	-	-	0	-	0	0
12	-	-	0	0	0	0	0
13B	-	0	-	-	-	-	0
14	0	0	0	0	0	0	0
16	-	0	0	0	0	0	0
17	-	0	0	-	0	-	0
18	0	0	0	0	0	-	0
19	-	0	0	-	-	-	0
20	-	-	0	0	-	0	0
21	-	-	0	0	0	0	0
22	-	0	0	0	-	-	0
23C	-	0	0	0	0	0	0
23E	0	0	0	0	0	-	0
24	0	-	-	-	-	-	0
25	0	0	0	0	0	0	0
26	0	0	0	0	0	-	0
27	0	0	0	-	0	-	0
28	-	0	0	0	-	0	0
31	-	0	0	0	0	-	0
33	-	0	0	-	-	-	0
35	-	0	0	0	0	-	0
39	0	0	0	0	0	0	0
41	0	0	0	0	0	-	0
43	0	0	0	-	-	-	0
45	0	0	0	0	-	-	0
48	0	0	0	0	0	0	0
50B	-	0	0	-	-	-	0
50C	-	0	0	0	0	-	0
51	0	0	0	0	0	-	0
52	0	0	0	0	0	-	0
54	0	-	0	0	0	0	0
55B	-	-	-	0	-	0	0
57	0	0	0	0	0	-	0
58	-	0	-	-	-	-	0
59	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0
60B	-	0	0	0	0	-	0
60C	-	-	0	0	0	-	0
61	0	0	0	0	0	0	0
62	-	-	0	0	0	-	0
63	0	0	15	0	0	-	3
64	-	0	0	0	0	0	0
65	-	0	0	-	-	-	0
66B	-	-	0	-	-	-	0
68	-	0	0	-	0	0	0
69	-	0	0	0	-	-	0
69B	-	-	-	-	-	0	0
CRUISE MEAN	0	2	0.3	0.3	0	0	0.6